

If you were the victim of a psychochemical military attack you probably would not notice much at first. You would feel the vaguest of sensations coming over you—tingling, sweating and gentle trembling. Eventually a cartoon-like quality would come to the colors around you, which you seem not to look at, but rather bathe in.

You are drawn to an open window. Looking down to the street below, you are treated to a scene that seems straight from a Marx Brothers film directed by Hieronymus Bosch. People with

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MAD, MAD, MAD WAR

BZ: The U.S. Has Enough Of This Chemical Weapon To Turn Everyone On Earth Into A Stark, Raving Lunatic

their clothes in disarray, some naked, stagger about, mumbling impromptu speeches. Cars jump the curbs onto the sidewalks and careen randomly into pedestrians, tossing them up like flapjacks. Dozens of citizens, including police officers, sit in the middle of the street, helpless with laughter. Others are whirling and spinning wild and ecstatic St. Vitus' dances.

Instinctively you want to leave this "crazy town." Without a thought of what the airport might be like or how you will get there, you bolt out of your apartment barefoot. Hitting the street, you are blown over by the cacophonous roar of mass madness. You join in.

BY MARTIN A. LEE & BRUCE SHLAIN
PHOTOGRAPHY BY BRUCE DAVIDSON / MAGNUM

This is not an excerpt from a cheap science-fiction thriller; nor is it simply paranoid fantasy. This scenario comes to you courtesy of the United States Army. What you have been zapped by is a real weapon from our vast and growing chemical arsenal, a weapon top-level military brass believed would revolutionize the future of armed struggle. The weapon is a chemical incapacitant called quinuclidinyl benzilate—BZ for short. BZ is the weapon of choice in a number of the psychochemical warfare scenarios that make up the list of "Warm War" alternatives to nuclear holocaust.

The purpose of psychochemical warfare is not to kill but to disorient people, dissolve their will to resist. Then, if need be, they can be moved—as docile as lambs—to another town, a secured hamlet or a concentration camp.

In the late 1950s, when the U.S. Army Chemical Corps was conducting secret research on hallucinogenic drugs, its researchers discovered BZ—a powerful mind-bender that could, they believed, incapacitate a large city for a militarily significant period of time. Exposure tests were conducted on thousands of American soldiers.

In the 1960s, BZ was reportedly used as a counterinsurgency device in Vietnam; more recently, it may have figured in the aborted hostage rescue operation in Iran. Massive quantities are stockpiled in the U.S., and according to CIA documents obtained by Mother Jones, there may be contingency plans to use it in the event of civilian insurrection.

Humane Warfare

Every weapon has its admiral or general. Admiral Hyman Rickover pushed the nuclear submarine; General Curtis LeMay, the strategic bomber. Admiral Nimitz fought for the aircraft carrier, and General Patton drooled over tanks. General Psychochemical is William Creasy, actually only a major general (now retired). Creasy argued during and after his career that chemical incapacitants fit hand in glove with the strategic requirements of the Cold

War. As chief officer of the Chemical Corps, Creasy promoted his cause with visionary and eccentric zeal. Even after his retirement, he maintained that psychochemical warfare was not only feasible, but humane. Of course, to win the hearts, minds and appropriations of the Joint Chiefs of Staff and the Armed Services Committee, a weapon also had to be tactically advantageous. Creasy argued that BZ was. Consider, for example, the difficult task of dislodging enemy soldiers from a city inhabited by an otherwise friendly population—an industrial center perhaps, bustling with activity. Assume that the city housed numerous museums and cultural landmarks. Why destroy the best and worst alike with an old-fashioned artillery barrage? The idea of obliterating a city to rout an occupation army seemed foolish to Creasy.

Suppose instead you found a way to dose the city's water supply with a drug like LSD or to release a hallucinogen in aerosol form. For 12 to 24 hours all the people in the vicinity would be hopelessly giddy, vertiginous, spaced out. Enemy soldiers would climb willingly into vans and be tricked, giggling and singing, to concentration camps. A day

or so later the citizenry would recover from their relatively brief stint in the ozone and return to a nine-to-five routine. There would be no fatalities and, except for a few borderline psychotics pushed over the edge by the drug, no sick or wounded needing medical care. Most importantly, the economy would have suffered no significant setback.

Psychochemical weapons, Creasy argued, offered the most humane way of conducting the dirty business of warfare. He preached a new military gospel: war without death. An era of bloodless combat was around the corner. There was one problem, however. The sadly misinformed lay public and their elected officials harbored a knee-jerk aversion to chemical weapons.

In May 1959, Creasy took his case directly to the people by granting interviews to reporters about the importance of psychochemicals. "I do not contend that driving people crazy—even for a few hours—is a pleasant prospect," he told *This Week* magazine. "But warfare is never pleasant. And to those who feel that any kind of chemical weapon is more horrible than conventional weapons, I put this question:

Would you rather be temporarily deranged, blinded or paralyzed by a chemical agent, or burned alive by a conventional fire bomb?"

Creasy testified a short time later to the House Committee on Science and Astronautics about how a psychochemical "attacks the various sensory, perception or nerve centers of the body... discombobulating them. Your hearing might be affected, your sight might be affected, your physical balance might be affected." And once delivered, Creasy said, these drugs would take effect so swiftly that people would not even know they had been hit.

Representative James Fulton (R.-Penn.) was disturbed by Creasy's remarks. He wondered if some foreign power might already be subjecting Americans to such agents. "How can we determine it?" Fulton asked. "What is the test to see whether we are already being subjected to them? Are we under it now? . . . How are we to know?"

The general pulled no punches in the way of scare tactics. If LSD or a related psychochemical was administered to members of Congress, Creasy boasted, "we could possibly have you dancing on the desks or shouting Communist

NOW, THE HALLUCINATION BATTLEFIELD

The army's psychochemical warfare research began in late 1952, when the Chemical Corps awarded a series of contract studies to a team of researchers at the New York State Psychiatric Institute. Dr. Paul Hoch, a prominent and well-connected psychiatrist who later became head of the New York State Department of Mental Hygiene, supervised the research.

The program got off on the wrong foot when one of the team's patients died after overdosing on MDA, a mescaline derivative known in street parlance as the "love drug," supplied to the program by Edgewood Arsenal. But Hoch survived and in succeeding years performed some bizarre experiments for the army and became a consultant to the CIA. Intraspinal injections of mescaline and LSD were administered to psychiatric patients, causing an "immediate, massive and almost shocklike picture with higher doses." Hoch participated in a program in which LSD was given to psychiatric patients who were then lobotomized in order to compare the effects of acid before and after psychosurgery. In one experiment, reports *The Village Voice*, a subject was placed under local anesthesia and was given a hallucinogen; he was then told to describe his visual experiences while surgeons removed part of his cerebral cortex.

In addition to sponsoring research at various universities and civilian hospitals (which included experiments in which LSD was administered to people who had electrodes implanted in their brains), the army conducted extensive in-house studies with LSD. During the late 1950s, a series of field tests was initiated at Fort Bragg, North Carolina. The purpose of these experiments was to determine how well soldiers fared in the execution of war

games while high on acid. Small military units were given LSD and asked to perform routine operational exercises, including command-post maneuvers, squad drills, tank driving, radar scope reading, antiaircraft target tracking, meteorological and engineering surveys, and so on. The results showed performance ranging from total incapacity to marked decrease in proficiency.

Concern then developed that LSD might one day be used covertly against American military personnel. So between 113 and 195 officers assigned to the Chemical Corps school at Fort McClellan, Alabama, were given acid as a supplement to their regular training program. Some staff members even tried to teach classes while tripping (CIA employees who were given LSD during the 1950s were officially coded "enlightened operatives"). Army soldiers were also interrogated after ingesting LSD. One army report states that "an interrogator of limited experience could compel a subject to compromise himself and to sign documents which could place him in jeopardy." With a stronger dose, "a state of fear and anxiety could be induced where the subject could be compelled to trade his cooperation for a guarantee of return to normalcy."

Army policy restricted acid tests to individual volunteers or small groups of military personnel. This was frustrating to Chemical Corps officials. Major General William Creasy bemoaned the fact that large-scale testing of psychochemical weapons in the United States was prohibited. He wanted "to test to see what would happen in subways, for example, when a cloud was laid down on a city. It was denied on reasons that always seemed a little absurd to me," he said.

—M.A.L. & B.S.

speeches."

Fulton asked: "Have you ever tried them on Congress?"

"I can assure you of one thing," said Creasy. "The Chemical Corps of the army has not found it necessary to do it up until now."

The Reject Drugs

At the outset of its psychochemical warfare program, the army viewed LSD as having great potential as a battle weapon. The potency of the drug impressed Pentagon strategists. A skillful saboteur could carry enough acid in his coat pocket to send the entire city of Moscow into loony tunes. As it turned out, however, no one could come up with an appropriate delivery system.

Military surrealists and their industrial counterparts forged ahead to find the perfect drug and delivery system for the job. During the late 1950s, the Edgewood Arsenal in Maryland (headquarters of the army's Chemical Corps) received an average of 400 chemical "rejects" every month from major U.S. pharmaceutical firms. Rejects are drugs found to be commercially infeasible because of their undesirable side effects. Of course, undesirable side effects were precisely what the army was looking for, and so it turned to friendly pharmaceutical companies for experimental drugs.

It was from Hoffmann-LaRoche, Inc., in Nutley, New Jersey, that Edgewood Arsenal obtained its first sample of BZ. The army learned that BZ would inhibit the production of a chemical substance that facilitates the transfer of messages along the nerve endings, thereby disrupting a person's normal perceptual patterns. The effects generally would last about three days, although some symptoms—headaches, giddiness, disorientation, auditory and visual hallucinations, and maniacal behavior—have been known to persist for several weeks. The bizarre reactions triggered by the drug precluded any commercial potential, but someone at Hoffmann-LaRoche seemed to sense that the army might be interested. They were right. It was exactly what the crowd at Edgewood had been waiting for.

Dr. Van Sim, who served as chief of the Clinical Research Division at Edgewood from 1956 to 1975, made it a prac-

tice to try all new chemicals himself before testing them on volunteers. Sim says he sampled LSD "on several occasions." Did Sim enjoy getting high, or were his acid trips a patriotic duty?

"It's not a matter of compulsiveness or wanting to be the first to try a material," Sim insisted. "With my experience I am often able to change the design of future experiments. . . . This allows more comprehensive tests to be conducted later, with maximum effective usefulness of inexperienced volunteers. I'm trying to defeat the compound and if I can, we don't have to drag out the tests at the expense of a lot of time and money."

With BZ, Dr. Sim seemed to meet his match: "[It] zonked me for three days. I kept falling down, and the people at the lab assigned someone to follow me around with a mattress. I woke up from it after three days without a bruise." For his efforts, Sim received the Decoration for Exceptional Civilian Service and was cited for exposing himself to dangerous drugs "at the risk of grave personal injury."

According to Dr. Solomon Snyder, a leading neuropharmacologist at Johns Hopkins University, which conducted drug research for the Chemical Corps, "The army's testing of LSD was just a sideshow compared to its use of BZ." Clinical studies on BZ were initiated at Edgewood Arsenal in 1959 and continued until mid-1975. During this period an estimated 2,800 soldiers were exposed to the superhallucinogen.

Pentagon spokespeople insist that the potential hazards of such experimentation were "supposed" to be explained to all the volunteers. But, as Snyder told *The Washington Post*, nobody "can tell you for sure [BZ] won't have a long-lasting effect. With an initial effect of 80 hours compared to eight for LSD you would have to worry more about its long-lasting or recurrent effects." The army, however, has neglected to conduct follow-up studies on BZ test subjects.

A number of soldiers who participated in drug experiments at Edgewood have come forward, claiming that they have never been the same since they were given BZ. Robert Bowen, a former air force enlisted man, felt disoriented for several weeks after his exposure. Bowen told reporters the drug produced a temporary feeling of insanity, but that his reaction was less severe

than that of some of the other subjects. Bowen told of one paratrooper who lost all muscle control for a time and later seemed totally divorced from reality. "The last time I saw him," Bowen added, "he was taking a shower in his uniform and smoking a cigar."

Better Than Acid

BZ is better suited than LSD as a chemical warfare agent for a number of reasons. Acid can knock a man "off his rocker," to use Chemical Corps jargon, but BZ will put him "on the floor." These were the very effects the army sought from incapacitants. But BZ is cheaper to produce, is more reliable and packs a stronger punch than LSD. Most important, BZ can be dispersed as an aerosol mist that will float with the wind across city or battlefield. Some advantage was also found in the fact that test subjects had no memory of their BZ experience.

To face the complex meteorological and technical challenge of spreading BZ in gaseous form, the Chemical Corps turned to academia and commerce. Aircraft Armament, Inc., was asked to devise chemical warfare "bomblets" and "telecartridge dissemination techniques." Honeywell, Inc., developed "a BZ bomblet compatible at high-speed, low-altitude delivery," and Aerojet General Corporation packaged the drug into bomb clusters that would sprinkle explosive bomblets of BZ and an explosive over a target.

The Dork Effect

In an effort to simulate the dispersal of BZ in a battle setting, the Chemical Corps initiated a series of open-air experiments. The first of these, a "multiphase field test" known as Project DORK, occurred during a two-week period in November 1964 at the Dugway Proving Ground in Utah. Soldiers were put through various military maneuvers, such as firing weapons, standing guard duty and executing simple battlefield orders, while BZ bomblets exploded in their immediate vicinity. Army documents describe DORK as having "positive results," although the army refuses to release detailed information on the experiment.

During the Vietnam War, the army

stockpiled extensive amounts of BZ, and as the war dragged on the U.S. Joint Chiefs considered using it. Officers of the Chemical Corps Center and School at Fort McClellan, Alabama, were trained to use the drug as a combat weapon. Another series of open-air tests was conducted in 1966 and 1967 at a special site in the Hawaiian Islands that served as a staging area for Vietnam maneuvers. About the same time, reports appeared in the international press about BZ's use by U.S. troops in Vietnam.

In March 1966, French journalist Pierre Darcourt described, in the journal *L'Express*, an incident in which 3,000 grenades containing BZ were deployed in Bongson by the First Cavalry Airmobile. In this particular action, known as Operation White Wing, a Viet Cong battalion of 350-500 troops was attacked with BZ gas; only 100 guerrillas are said to have escaped.

According to Wil Ververy, a Dutch author, who based his claims on North Vietnamese sources, BZ was used on at least five other occasions in Vietnam between 1968 and 1970. The Pentagon categorically denies the stories.

Meanwhile, back at Edgewood Arsenal, the Chemical Corps and the CIA's Office of Research and Development jointly initiated a project to create new compounds "that could be used offensively." A CIA memo dated March 8, 1971, indicates that a backlog of more than 26,000 drugs had been acquired "for future screening." By this time the Edgewood staff had grown to 80 people, under the direction of Dr. Van Sim, who presumably remained off the acid casualty list despite his trips. Information gathered from this screening process was catalogued and databanked in a "large, closely held" computer system that monitored worldwide developments in pharmacology.

A major portion of the OFTEN/CHICKWIT Program, as the joint CIA-Army effort was called, was geared toward incapacitants. Between 1967 and 1975, at least seven hallucinogens more potent than BZ were tested by the army; inmates at Holmsburg Prison in Pennsylvania were used as test subjects for some of the drugs. Very little is known about these experiments, although CIA documents mention "several laboratory accidents" in which a drug designated "EA-3167" produced "prolonged psychotic ef-

fects" in some subjects.

In 1975, the testing of BZ and related compounds on human subjects was suspended following sensational exposures regarding CIA and military drug experiments. That same year President Ford signed an order banning the development, production and storage of most chemical and biological weapons. By this time, the army had procured all the BZ it could possibly dream of using: no less than 50 tons, or enough to incapacitate everyone in the world. Fortunately for the army, several chemicals designated "riot control" agents, including BZ, were later exempted from the president's edict. This allowed the army to maintain its huge arsenal of BZ munitions for possible employment in civilian disturbances and emergency rescue operations.

There is evidence that BZ already may have figured in one such operation—the plan to rescue the hostages from the U.S. embassy in Tehran. Government officials have remained tight-lipped about how the American commando unit expected to subdue the Iranian militants without endangering the captives, although then Defense Secretary Harold Brown insisted that the rescue team was "the most confident about that part of the mission." According to news reports, the rescue team was armed with a chemical incapacitating agent. BZ is the standard such agent in the army's inventory.

Beyond the BZ Era

As bombs containing BZ age, the seals in their metal containers sometimes deteriorate, causing potentially hazardous leaks. The army admits there have been a number of accidents in which soldiers were inadvertently exposed to the superhallucinogen.

The army has announced its intention to demilitarize most of its BZ munitions, although construction of a special facility to incinerate the drug bomb is not scheduled to begin until 1984 or 1985. According to Pentagon officials, the decision to phase out BZ hinges solely on the fact that it has exceeded its intended shelf-life.

In truth, BZ appears to be a drug that never quite found its niche in the combat arsenal. Initially conceived as a large-scale chemical warfare agent, BZ never actually fulfilled this function.

And in all probability, the Vietnam experience showed the drug to be only marginally effective as a counterinsurgency agent. The emphasis has since shifted toward considering the use of incapacitants to deal with terrorism and civil disobedience.

"With the stuff we were handling," Dr. Sim has said, "a riot like the one at Attica never would have happened. Why kill someone or beat his brains in when all you really need to do is incapacitate him?"

Documents prepared at the army's "limited war laboratory" at Aberdeen Proving Ground in Maryland, one of three major installations where BZ is currently stockpiled, indicate that the military planners considered an array of bizarre weapons to control civil unrest during the height of the antiwar movement. One scheme involved the use of tiny remote-controlled model planes nicknamed "mechanical bees." The bees, mounted with hypodermic syringes, would be launched during a demonstration—fired at selected protesters to render them senseless. A CIA document dated September 4, 1970, foretells the future of BZ-type weapons: "Trends in modern police action and warfare indicate the desire to incapacitate reversibly and demoralize, rather than kill, the enemy. . . . With the advent of highly potent natural products, psychotropic and immobilizing drugs, a new era of law enforcement . . . is being ushered in."

Although the army plans to decommission BZ, the CIA has made no announcement about its stockpile, which in 1975 was inventoried at about ten pounds—a small stash to be sure, but still enough to conduct a few more hostage rescues or zap hundreds of thousands of people in one maneuver.

And just because it intends to decommission BZ does not mean that the army itself is going out of the incapacitation business. A source close to the military reports that \$10 million of Reagan's projected chemical weapons budget will be allocated to the development of new incapacitating agents.

Martin A. Lee and Bruce Shlain are completing a book entitled The CIA and the Acid Generation: The Secret History of LSD. Research assistance for this article was provided by the Fund for Investigative Journalism and the Mother Jones Investigative Fund.